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[Jobs](#)



Nanotech 2012 Vol. 3

## Nanotechnology 2012: Bio Sensors, Instruments, Medical, Environment and Energy (Volume 3)

Table of Contents:

1. [Biosensing, Diagnostics & Imaging](#)
2. [Bio Nano Materials](#)
3. [Materials for Drug & Gene Delivery](#)
4. [Cancer Nanotechnology & Nano Medical Sciences](#)
5. [Environmental Health & Safety](#)
6. [Solar, Renewable Energy Technologies & Materials](#)
7. [Carbon Capture, Bio Materials & Bio Fuels](#)
8. [Energy Storage, Novel Generation & Nano Materials](#)
9. [Efficiency, Green Building & Water Technologies](#)
10. [Green Electronics, Chemistry & Materials](#)
11. [Oil, Gas, Nuclear & Traditional Energy](#)

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## Bio Nano Materials

- [Vertically Aligned Patterned Peptide Nano  
Wires for Cellular Studies](#)

M.B. Taskin

*Technical University of Denmark, DK*

- [Synthesis of Ultra Small Biocompatible  
Magnetic Nanocomposites by Seeded  
Emulsion Polymerization](#)

H. Kloust, E. Pösel, S. Kappen, C. Schmidtke,  
A. Kornowski, W. Pauer, H.-U. Moritz, H.  
Weller

*University of Hamburg, DE*

- [Unravelling adsorption and alignment of  
amyloid fibrils at interfaces by probe particle  
tracking](#)

L. Isa, J.M. Jung, R. Mezzenga, S Jordens  
*ETH Zurich, CH*

- [Study on the novel drug vehicle with  
multimodal imaging function](#)

P.J. Wu, T.Y. Liu

*Institute of Biomedical Engineering, National  
Yang-Ming University of Taiwan (ROC), TW*

- [Clusters of Iron Oxide Nanoparticles for  
Efficient Magnetic Resonance Imaging](#)

P.-S. Lai, S.-M. Lai

*National Chung Hsing University, TW*

- [Multifunctional Micropatterned Nanofiber  
Capable of Cell Patterning, Metabolite  
Detection, and Growth Factor Delivery](#)

W.G. Koh, H.J. Lee, H.W. Lee, S. Park

*Yonsei University, KR*

- [Boron Nitride Nanotubes functionalized with  
glucosamine as a potential novel carrier system  
for radioisotope and drug delivery](#)

T.H. Ferreira, D.C. Ferreira Soares, L.M. Costa-Moreira, E. Martins Barros de Sousa  
*Centro de Desenvolvimento da Tecnologia Nuclear, BR*

[Electronic effects in CdSe/ZnS quantum dots conjugated to Interleukin 10 antibodies](#)

T.V. Torchynska, J.L. Casas Espinola, J. Douda, O.S. López de la Luz

*Instituto Politecnico Nacional, MX*

[Aerosol based fabrication of thiol-capped gold nanoparticles and their application for gene transfection](#)

J.H. Byeon, J.T. Roberts

*Purdue University, US*

[Fabrication of Microelectrodes on Polyester Membranes for Dielectrophoretic Cell Capture](#)

C. Hanke, P.S. Dittrich, D.R. Reyes

*National Institute of Standards and Technology, US*

[Mechanical Characterization of Prion Fibrils using Coarse-grained Modeling Approach in Silico](#)

G. Yoon, Y-K. Kim, K. Eom, S. Na

*Korea University, KR*

[Bicelles: New Lipid Nanosystems for Biomedical Applications](#)

L. Barbosa-Barros, G. Rodriguez, L. Rubio, M. Cocera, C. Alonso, A. de la Maza, O. Lopez

*Inst. Advan. Chemistry Catalonia-CSIC, ES*

[Nanoscale SPM Characterisation of Nacre Argonite Plates and Synthetic Human Amyloid Fibres](#)

I. Grishin, C. Tinker, D. Allsop, A. Robson, O.V. Kolosov

*Lancaster University, UK*

[Novel smart bio-nanomaterials: bioactive glasses containing metal nano-particles conjugated with molecules of biological interests](#)

G. Malavasi, G. Lusvardi, L. Menabue, E. Ferrari, M. Saladini, V. Aina, G. Martra, L. Bergandi, D. Ghigo

*University of Modena and Reggio Emilia, IT*

[Hyaluronan-modified Magnetic Hydroxyapatite Nanoparticles for](#)

[Hyperthermia](#)

H.-C. Wu, S.-Y. Hsieh, T.-W. Wang

*Tatung University, TW*

[Novel Organofunctional Silane Coatings on  
Silica-Coated Ti](#)

J.P. Matinlinna, J.K.H. Tsoi

*The University of Hong Kong, HK*

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Pages: 818

Nanotech 2012 Vol. 3

[Nanotechnology 2012:  
Bio Sensors,  
Instruments, Medical,  
Environment and Energy  
\(Volume 3\)](#)

[Chapter 2: Bio Nano  
Materials](#)

## **Bicelles: New Lipid Nanosystems for Biomedical Applications**

Authors: L. Barbosa-Barros, G. Rodriguez, L. Rubio, M. Cocera, C. Alonso, A. de la Maza, O. Lopez

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Pages: 106 - 109

Keywords: bicelles, lipids, nanosystems, skin

Abstract: Bicellar nanosystems are a fascinating category of morphologically adaptable and versatile lipid assemblies consisting in bilayered disk-shaped nanoaggregates formed in water by long and short alkyl chain phospholipids. Characteristics of these bicellar systems, such as the solely lipid content, small size and its organization in bilayer allow to propose the use of these nanostructures for biomedical purposes. Our results evidenced that, depending on the composition, temperature and other factors, these nanosystems exhibit high structural and morphological versatility. Additionally and, due to the mentioned versatility, bicellar nanosystems are able to modulate the permeability of

anatomic barriers and to incorporate some drugs, providing advantages respect to other lipid systems such as liposomes and micelles (1,2). All this considered, these nanostructures emerge as smart nanosystems with high potential in biomedicine.

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2. L Barbosa-Barros, G Rodriguez, C Barba, M Cocera, L Rubio, J Estelrich, C Lopez-Iglesias, A de la Maza, O Lopez, Bicelles: Lipid nanostructured platforms with potential dermal applications, *Small* 2011, DOI: 10.1002/smll.201101545

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